A

RCMA

MONTHLY NEWSLETTER

FEBRUARY 1979

R 2-12-79

RCMA OFFICIALS

BOARD OF DIRECTORS

RCMA PRESIDENT

DAVID A. HEYWOOD (CA-LA-001)

VICE PRESIDENT

DANIEL MC LEAN (CA-OR-004)
714-995-6336

SECRETARY

GEORGE KASHNER (CA-OR-041)
714 - 540-9061

TREASURER

KARL PAGEL (CA-OR-022)
714-772-5451

MEMBER-AT-LARGE

JERRY SHORT (CA-OR-002)
714-772-1259

STAFF MEMBERS

MEMBERSHIP OFFICER

GEORGE POND (CA-SB-008)
714-665-9447

SERGEANT-AT-ARMS

PHIL BETTENCOURT (CA-OR-009)
714-554-0922

ANARC REPRESENTATIVES

IDEN ROGERS (CA-R-001)
714-688-1168

JERRY SHORT (CA-OR-002)
714-772-1259

DON JONES (CA-OR-014)
714-524-5730

NEWSLETTER STAFF

CHIEF EDITOR

DON JONES (CA-OR-014)
714-524-5730

NEWS EDITOR

TECHNICAL EDITOR

CHUCK SMITH (CA-OR-001)
714-840-4397

PUBLISHER

JERRY SHORT (CA-OR-002)
714-772-1259

The RCMA Newsletter is published monthly by the members of the RADIO COMMUNICATIONS MONITORING ASSOCIATION, Post Office Box 4563, Anaheim, California 92803. Subscription rate/membership fee is $6.00 per year for US and Canadian residents; $14.00 for overseas residents. Information contained herein is primarily obtained from members and does not necessarily present the position or reflect the opinion of the RCMA as a whole. Reproduction of any material in this Newsletter is authorized providing the source is given credit (this excludes direct photocopying). THE BAY AREA SCANNERS CLUB is specifically welcome to use material from the RCMA Newsletter. FEB. 1979 ISSUE 2 VOLUME V COPY NO. XXXVII[I]

TABLE OF CONTENTS

PRESIDENT'S MESSAGE	1	FREQUENCY LISTS	10-11
CALENDAR	1	WANT ADS	12
EDITORIAL	2	TECHNICAL TOPICS	13-15
PERSONAL COMMUNIC. FOUND.	2	BOSTON POLICE NET	16
CHICAGO FIRE DEPARTMENT	3	"T" CODES	16
CORRESPONDENCE	4-7	FEDERAL FREQ. EXCHANGE?	17
MILITARY TRAINING FREQ.	7	DX-SOLAR ECLIPSE	17
PRE AMPS & INTERMOD	8	MONITORING & THE LAW	18-19
INFORMATION EXCHANGE	9	MEMBERSHIP	20

PRESIDENT'S MESSAGE

Included in this Newsletter is a ballot for the 1979 Board. Again, like last year, we are asking each member to mail in their choice, but please do not delay in returning the ballot. The deadline is March 19th--all ballots to be in by that time. Read everyone's qualifications and judge for yourself who may do the job best.

Last month, Dave Faraone, from the Mount Wilson Ham Repeater Association, spoke about the repeater and radio direction finding equipment. The discussion was then followed by many questions. We thank you, Dave, and your associates for such an interesting evening.

At this month's meeting, we will have Joe Merdler, a lawyer with the Personal Communications Foundation. He will speak about legal problems in the communications field.

Many times members have asked me about RCMA's future. Slowly sitting back, I begin to reveal some of my dreams of our monitoring group's future. We started as a very small local group and grew to a very large international driving association. However, much of the spirit and warmth experienced at our monthly meetings is never felt by our "out-of-area" members. I ultimately would like to begin many field or satellite chapters of RCMA. These chapters would have their own meetings, officers, and programs. They would also have their own field reporter that would report to the monthly Newsletter. The Newsletter would then be published by RCMA International, the mother organization. This mother organization ideally would only be concerned with the monthly Newsletter and its distribution. This would allow for greater membership participation, better programs and meetings, and a higher growth rate. I can even see the possibility of our Newsletter becoming a "Magazine". For those in Southern California, a chapter may be formed in your area to eliminate the need of driving hours to the present meeting location.

Oh well, these are only a few of my ideas. Perhaps our new Board may look into these ideas and include them in our new Constitution, which should be their first major concern. If you have any comments or other ideas, I would like to hear from you.

DAVE (CA-LA-001)

C A L E N D A R

MONTH DATE	DAY TIME	TYPE MTG. SCHEDULED	ORGANIZATION LOCATION
FEB. 16	FRI. 8:00 PM	MONTHLY 3rd FRI.	RADIO COMMUNICATIONS MONITORING ASSN. MERCURY SAVINGS & LOAN VALLEY VIEW ST/LINCOLN AVE.,BUENA PARK, CA
FEB. 21	WED. 7:30 PM	MONTHLY 3rd WED.	BAY AREA SCANNERS CLUB BERESFORD RECREATIONAL CENTER 27th/ALAMEDA DE LAS PULGAS, SAN MATEO, CA.
MAR. 2	FRI. 7:30 PM	MONTHLY 1st FRI.	RADIO COMMUNICATIONS MONITORING ASSN. SAN DIEGO CHAPTER, SKIP SANDERS' HOME 2129 CROWNHILL RD., SAN DIEGO, CA

EDITORIAL COMMENTS

Lucky you -- my editorial comments this month are going to be quite brief. Since I don't have any particularly profound remarks, I decided not to bore you with trivia.

The main thing to emphasize this month relates to RCMA's annual election. As you receive your Newsletter, you will notice that your 1979 ballot for "BOARD OF DIRECTORS" is included. PLEASE use it! Vote for the person who, in your opinion, will do the most for the club. Incumbents may or may not be the best individual for the job. Just remember -- you are in the "driver's seat", but only if you exercise your privilege and VOTE.

DON

FEBRUARY CLUB MEETING

As indicated in the President's Message, the February club meeting of the RCMA will feature a representative of The Personal Communications Foundation. For those of you who are not familiar with this organization, the Personal Communications Foundation provides legal research for the amateur radio and citizens band services, serving manufacturers, retailers, users, and their attorneys. The following is an excerpt from a brochure regarding the Foundation:

THE PERSONAL COMMUNICATIONS FOUNDATION

1. The Personal Communications Foundation is a non-profit, tax-exempt California corporation established in November 1976. Its Board of Trustees, Officers and Advisor consist of lawyers, judges and law school professors with substantial experience in the representation of users who have encountered communications-related legal problems.

2. The Foundation has been organized expressly for the purpose of creating a comprehensive personal communications law library. The Foundation continues to collect available court decisions, briefs and legal memoranda relating to personal communications. Each document is indexed by subject matter (e.g. land use regulations, electro-magnetic interference, nuisance, Federal pre-emption and administrative law, legal operating practices and procedures and miscellaneous) and cross-indexed by state and Canadian province. Copies of such documents are available at cost to Hams, CBers, industry, governmental agencies and attorneys. Where the available materials are inadequate, original research is conducted by the Foundation.

3. The Foundation has expended thousands of dollars in funding special studies. One study on the issue of Federal Pre-emption has already been incorporated into a brief before the California Court of Appeals.

4. The Foundation plans a quarterly newsletter for all members, summarizing current legal developments and analyzing existing case law and statutes.

5. The Foundation is also planning seminars throughout the country on all aspects of personal communications law including trial strategy and the manner of dealing with local zoning boards and commissions which are considering restrictive zoning laws.

Additional information regarding the Foundation is available through their offices at 10960 Wilshire Boulevard, Suite 1504, Los Angeles, CA 90024 (213) 478-1749

* * * * * * * * *

SAT. FEB. 17 - SOUTHERN CALIFORNIA AREA DXERS (SCADS) Village View School, Huntington Beach, CA. 9 a.m. to 5 p.m. For information, send a SASE to Don Johnson, PO Box E, Elsinore, CA 92330. ALL WELCOME.

COMMUNICATIONS CHANGE--CHICAGO FIRE DEPARTMENT

The Chicago Fire Department is in for the biggest change in its communications history. (Also, see Frequency List - Page 10)

PRESENT SYSTEM

The Chicago Fire Department (CFD) operates out of two alarm offices. Since the 1860's, the main office has been located in City Hall on a plot of ground used for fire dispatching (it burned down in 1871, along with the rest of the town!). The Englewood Office was set up in a South side firehouse in the 1940's in the event the City Hall was A-bombed. (Now, an H-bomb would destroy seven counties). The dividing line is 3900 south (39th Street, also called Pershing Road).

The City required all telephone and telegraph companies to reserve one duct in all conduit for City wires. The police PAX system and the fire alarm circuits use these lines.

All firehouses can be reached by Bell Telephones. They also have several City wire networks. These include loudspeaker, Marshel Line (voice PAX), Talker (party line telephone), Ticker (telegraph -- the main method of transmitting alarms to the firehouse -- firehouses then pick up the Talker to hear the address if their unit, or a unit near them, is addressed), and Alarm Register (punches holes into paper tape--the sequence determines fire box number).

Prior to radio, a chief's driver would go to the nearest firebox and telegraph calls for additional units. Each box contained a telegraph key and handset. Fireboxes today no longer contain a handset. The telegraph key is for test purposes only. Each firebox contains a wheel with teeth--each tooth opens a DC series circuit to transmit an impulse. The spacing of the teeth into sequences and spaces determines the box number. Dots and dashes are not used--you count pulses.

Firebox alarms go only to the alarm office. These are only repeated to the firehouses on major alarms. The basic fire alarm system has not changed since before the Chicago Fire of 1871. If the system had not been ignored, Chicago would not have burned down. Lookouts thought the boxes were wrong and sent equipment to where they thought the alarms came from.
After a school fire killed 93 in 1958, school and hospital internal alarms were hooked up to a street firebox outside. The alarm offices cannot tell the difference between an outside or inside "pull".

Fire radio consists of a North duplex pair with Mobile Relay, South duplex pair with Mobile Relay, Administrative simplex channel to which ambulances were transferred to relieve congestion, and a fireground simplex channel. Originally intended for walkee-talkee use, mobiles also use this channel now. Since power limitation is 10 watts (output), all the mobiles operate illegally.

A new fireground frequency of 154.385 was obtained. A new ambulance dispatch center was built for operation on 460.600 and 460.625. Plans to change to these three frequencies have been cancelled!

NEW SYSTEM

Enginehouse 25 is being converted to a new centralized dispatch center. It is located next to the fire training academy and office building. All communications will be by 900 MHz radio.

The wire system will be abandoned--Radio-teletype will link firehouses with the alarm office. Target date is May 1979. Street boxes will be removed. To report a fire, find a telephone you can use (in an unfriendly suspicious city) or let it burn. In the 1967 blizzard, so many people wanted to use the phone that it took 20 minutes to get a dial tone. All firehouses are licensed as control stations. Corner reflectors point towards Sears Tower, roof height 1450 ft. above ground.

Within a year or two, mobile units will switch to 900 MHz. Scrambler-digital is being considered.

ED (IL-004)

CORRESPONDENCE

Several Florida members of the RCMA have indicated a desire to meet with each other on a regular basis and possibly establish a Florida RCMA chapter. Therefore, I am asking that all RCMA members in Florida contact me so that arrangements can be made for a meeting. By doing so, we can help ourselves and help each other -- so, let's do it!! JOHN W. PIERCE, (FL-001), 305 E. Dakin Ave., No. 7, Kissimmee, FL 32741 (305) 847-7472.

JOHN (FL-001)

* * * * * * * * * * *

Just a short item of interest. Effective January 1979, CHP cars in the Bakersfield area will be downsized to medium-sized cars for testing -- including Z-28 Camaro's for pursuit purposes.

FRED (CA-KE-002)

* * * * * * * * * * *

Recently BOB (CA-YO-001) mentioned hearing DPS traffic (Department of Public Safety) on 460.225 around Tucson. This is the "State" channel and normally is used only when an officer is out of his district or is coordinating with officers from other districts. This frequency has changed several times since the installation of the UHF system.

The old VHF-State Channel (154.935) is still heavily used in some parts of the state. It's also used all over the state for an inter-agency common frequency. I've heard FBI, Secret Service, U.S. Marshals, Customs, Attorney General, etc. use it for emergency back-up and information. During several recent manhunts, all coordination of the participating agencies was done there also.

AL (AZ-001)

* * * * * * * * * * *

Aircraft Comments

FOR ROCKY (KY-001) -- UHF Aircraft freqs used by Seattle Center in Washington and Oregon are 239.0, 269.0, 269.5, 278.3, 306.3, 307.1, 321.3, 322.5, 327.1, 343.6, and 378.3. UHF is strictly line-of-sight and generally used along with a back-up freq like 278.3 or 127.6 or 133.65. Unless you live close to the airport, you might just get an aircraft.

FOR GUY (IA-002) -- On major airlines, some that I have picked up are United on 129.0, Tiger on 129.4, Western on 130.1, Empress on 130.8 and Continental on 131.0. It appears that the freqs from 129.0 through 131.0 are being used for aircraft talking to their operations at certain airports. Still looking for other airlines.

ALSO FOR GUY (IA-002) -- On Regency Digital Flight Scan -- received mine about a month ago and still trying to find out what it will do. As for the 108-118 MHz, this part could be left out. This band is for VOR Beacons and unless you live close to one, you cannot pick them up -- strictly line-of-sight, and also because of the first IF, which is 10.7 MHz, you get the images from 21.4 MHz above. Thought I picked up Pan Am on 110.55, but he was talking to San Francisco on 131.95. As for PRIORITY, there are two -- don't care for it as it interrupts the other channels every second. As for "Birdies" -- Regency lists three: 112.7, 122.95, and 134.1. Others that I have found are 122.025, 125.6, 129.725, 130.074, 132.725, and 134.55. Also, between 122.7 and 126.5 MHz you pick up images from the Hams' 2-meter band. As for scanning, it takes 2.4 seconds per MHz. I scan between birdies and not over MHz per scan, as the increment rate is 25 KHz. As for the touch panels, some of the switches are recessed further than others and are a little harder to "click".

As for antennas, I have had the best luck with CB whips. Am using a 54-inch whip now and plan to erect a 3/4 wave - 5-ft Ugly-Stick on the top of my mast, when weather permits. I don't think beam antennas will work on scanners unless you want to point in one direction for all channels.

So far the only ATC Centers picked up are Seattle on 121.4, 125.3, 125.6, 125.8, and 134.65. Aircraft on the following: 118.1, 120.9, 122.0, 122.8, 123.55, 123.6, 124.2, 125.1, 126.6, 126.8, 127.6, 128.5, 131.8, 131.95, 133.65, 133.75, 133.90, 134.35, 134.75, and 134.90. I know that 126.8 and 131.95 are in San Francisco.

HAROLD (OR-004)

* * * * * * * * * * *

I would like to make two specific suggestions which might improve the usefulness of the Newsletter for out-of-state readers:

1. Compile a listing of V/UHF frequencies and systems in use nationwide. Some of these would be airlines, railroads, Red Cross, NFL referees, etc. Others would be some of the less sensitive federal systems, e.g. Army Corps of Engineers. While it is true that some of this information is available in FCC offices on microfiche, it would be very nice to have the wheat sorted from the chaff by someone knowledgeable--and then committed to "hard copy" for the membership.

2. Ask knowledgeable listeners in each state to make some sense of the multitude of listings for highway patrol, state police, etc. in Police Call or the FCC microfiches. I just spent two weeks in Colorado, Utah, Arizona, and New Mexico and had no way of knowing which of perhaps 20 possible frequencies were in use in any given location. It would be useful to know what is in use where and to know the base/mobile pairings for each state. Otherwise, even a BC-210 is not terribly helpful.

BOB (KS-001)

Ed Note: Any of our "knowledgeable" readers interested in providing the info suggested by BOB? Our "small" Newsletter staff just can't handle it, even though it certainly has merit.

* * * * * * * * * * *

Recently someone wrote the Newsletter, commenting about being able to pick up transmissions 100 miles away, and someone responded that "it must be nice". Let me tell you, it is!! Thanks to the strange topography of this State (Arizona), I have problems picking up the far side of Phoenix (in the "shade" of mountains), but can easily pick up mountain-top repeaters in Tucson (130 miles), Flagstaff (170 miles) and Nogales (200 miles). This is with an A/S MON-3 25-feet above the ground. Incidentally, for those who live in apartments or have access to a flat roof, I installed a five-foot mast on a 4' x 4' piece of plywood. This circumvented the management's rules prohibiting permanent attachments to the building. It also allows me to drag this "skid" around until I find the best location for the antenna.

AL (AZ-001)

* * * * * * * * * * *

On January 15th, the Los Angeles City Fire Department began providing fire and emergency ambulance services for the City of San Fernando. The immediate stations that will be serving San Fernando are Station 75, Station 91, Station 98. The rescue ambulances will be Rescue 275, Rescue 98, and Rescue 81.

"Emergency Ambulance" is now the "first-in" ambulance for the City of Brea, Calif. -- they are on 155.16, call sign KMK 408, units numbered 3401, etc.

ROBERT (CA-OR-026)

I have enclosed an article from the San Jose Mercury News (See summary below) which may be of interest. Could it be that our police are in violation of the law? Perish the thought! This brings to mind the effort by police agencies to make it either illegal or impossible for "Joe Citizen" to monitor their activities. As we all know, whenever government agencies try to limit the freedoms of the people, the only ones that suffer are the people themselves--the criminals go right on owning guns, scanners or whatever. Government is so big, all they have to do now is sit around and think up ways to take away our liberties. All of these anti-scanner laws, as well as the tremendous amount of money being spent on scramblers, is a direct effort to turn this country into a "Police State". I personally know that I have the technical ability to build a decoder for most any scrambler they want to come up with. And, if I can't, the engineers where I work can ...!! And we could always pay some guy who works for them to give us the info we needed - human nature being what it is. The company I work for manufactures satellite equipment, and the FCC is saying we can't watch programs we pick up off the birds. Next they will be telling us we can't listen to short wave or watch Walter Cronkite. Bah, HUMBUG!!! By the way, I am an ex-cop, by choice.

One of the things that always comes to mind in most clubs is the possibility of running paying advertisements to help defray the costs of printing, etc., without having to raise dues. I would like to say that in my own experience and observations, it is a bad idea for the following reasons: First off, someone is going to think they own the club (the manufacturer). Secondly, someone is going to give a bad review to an advertiser's product (honest editor). Thirdly, people are going to argue about it (me), and also some internal political warfare such as what is going on in the Bay Area Scanners Club. What? You say you hadn't heard? Well, it seems that one of the club founders owns a scanner shop and one of the members also owns a scanner sales operation in his garage. It seems the garage operation can undercut the regular shop (much less overhead and all that), and so the war is on with hard feelings and people lining up in two camps, three if you count those who wish they would knock it off. The whole purpose of the club seems to be losing ground. This kind of crap is what goes on as soon as a club loses sight of what its original objectives were. Keep it simple--just have a classified section for members and raise the dues if you have to. If a person can't donate a buck or two a month to his hobby, he had better get out of it and take up house burglary.

About expanding the club to include Short Wave, Bird watching, and dish-washing -- NUTS!! I belong to two good SW clubs. I joined RCMA to get news about MONITORING. If this club puts in other sections, I'll quit and start my own. As a matter of fact, we do have a loose organization here now in the Santa Clara County area and if all goes well we might start having some kind of regular goings on, about MONITORING.

Yours for good monitoring.

CHUCK (CA-SC-002)

Summary of News Article sent by CHUCK -- from San Jose Mercury News:

> Police have been warned to stop jamming popular dashboard and windshield-mounted radar detectors used by many motorists. Some departments were advised a year ago to quit using modified obsolete radar units to jam the detectors.
>
> In a formal notice, the FCC specifically warned police about using a new device now on the market becuase it is, in effect, an unlicensed transmitting device. The ruling was aimed at the Midwestern and rural states. the California Highway Patrol is the only state police force in the nation that does not even use radar.
>
> The Commission acted when it became known the new equipment was being bought for traffic enforcement.

Many states have laws against motorists using radar detectors, and law enforcement agencies have protested the FCC action. The International Association of Police Chiefs have condemned the FCC for the notice put out.

A representative of the FCC's chief engineer's office said the new commercial device originally was approved as a warning instrument for highway maintenance crews. When a car approaches on a curve or hill, the device triggers an alarm and gives the crews time to get off the road. He said "It's not a police radar--its a field disturbance device -- it's a relatively cheap device, a lot less cost than a police radar. They could have them on constantly."

* * * * * * * * * *

In Kansas, except for the Kansas Turnpike, all of the action is on low band. The many high band and UHF frequencies listed for the State of Kansas in "Police Call" are for intra-system use as remote control links only. They are not received by patrol cars--the travelers in the state will have little use for them. Most such links use directional and sometimes horizontally polarized antenna systems.

The above comments hold for the Missouri and Oklahoma highway patrols also, except that most OHP mobiles have 155.49 or 155.67 for local liaison in addition to their low band HP radios. 155.67 instead of the more common 155.37 is the intersystem channel in Oklahoma.

Contrasting with the nearly exclusive use of low band by Oklahoma, Missouri and Kansas, most Iowa HP cars have both high and low band capabilities. Iowa may be shifting from low to high band. The situation seems to be complex enough to require one of our Iowa members to sort it out for us. I have not been to Nebraska lately, but it still appears to be north of Kansas on the map!

The Army Corps of Engineers' dams, lakes, and surrounding campgrounds in most, if not all, of Kansas, Missouri and Oklahoma are covered on 163.4375 BM with base stations also on 164.200. There is a network of repeaters along the Missouri River.

BOB (KS-001)

RECEIVING MILITARY COMBAT (TRAINING) RADIO COMMUNICATIONS

Military radio in the field is mainly lo-band FM with wide deviation (15 KHz), so these channels may be received with poor audio when weak, but most scanners will receive them well when signals are good. Frequencies most used are spaced every 50 KHz on the bands--30-30.55, 32-33, 34-35, 36-37, 38-39, 40-42, 49.6-54. Stations may also be using 25 KHz channels, or other parts of lo-band (especially aircraft). Finding these stations may take some time because use may be rare outside of specific operations, and power is usually 1 to 10 watts with small antennas, but signals can skip across country with good strength, so they can be found anywhere in the U.S. I.D. is by tactical call sign, so it can be a real challenge to figure out where a non-local signal is coming from.

An example of a long-range signal heard in San Diego is on 38.10 MHz, from Fort Drum, N.Y. -- this is their Primary Maintenance Channel (determined by operator's say-so, as he "worked skip" talking to a San Diego station). Some of the channels used in San Diego by the Amphibious Forces are 32.4 (the Assault Craft Alpha Channel), 32.8 (the Bluejay Channel), 34.5 (The Administrative Channel), 36.2 (Ground operations), 36.6 (the Oarfish channel), 36.8 (General Use), 38.10 (The Assault Craft Bravo Channel), 38.6 (General Use), and 38.75 (General Use).

SKIP (CA-SD-002)

PREAMPS AND INTERMOD

I have mentioned several times in various writings some of the hazards involved in adding preamps to your system without due regard for the consequences. One of the more serious of these consequences is the causing or worsening of problems with "intermod". Now, ever since the hobby of monitor listening has blossomed into a full-blown national pastime, virtually every type of birdie, image, or other type of spurious response has been chalked up as "intermod". No one will deny that intermod is an aggravation, particularly in dense urban areas or near transmitter sites, but it doesn't deserve to be blamed for all our monitoring woes.

Intermodulation products (intermod, for short) are a breed of bothersome little gremlins which are generated within your monitor receiver. Under some circumstances, intermod can be externally generated, in which case your radio may be totally innocent, but it is safe to say that the vast majority of intermod problems are kicked up inside the receiver itself, specifically in the front end.

The receiver's front end, i.e. RF amplifier, must be capable of handling signals ranging from less than one microvolt to as much as 50-100 millivolts or even more! An extremely strong signal may cause the amplifier to be driven into a nonlinear region, in which case it begins to become not only an amplifier, but a mixer as well. Once in this nonlinear region, the front end begins to generate products of its own, products which did not come in on the antenna but instead were created in the receiver itself. It is not necessary for your monitor to actually be tuned to these strong signals for the intermod to occur--it is generated in the front end which is much more broadly tuned. In addition to the fundamental frequencies themselves, a nonlinear front end will also generate harmonics of these frequencies, making the possibilities for interference-producing products almost limitless. For example, the third harmonic of a strong signal on 162.55 MHz can mix with the second harmonic of another signal at 158.25 MHz to produce a response at 171.15 MHz. This interference will only occur, obviously, when both stations are transmitting simultaneously; if either one stops, the intermod will disappear.

All RF amplifiers will eventually be driven into nonlinearity, some sooner than others. The full span of signal level which the front end can handle and remain in its linear region is known as the "dynamic range" of the front end, and can be expressed in decibels. The greater the dynamic range, the less of a problem you will have with intermod, but as usual, there is a catch. An RF amplifier with a large dynamic range must be more carefully designed, must use parts of higher quality, and must be painstakingly adjusted, and all of these things cost money, money which we as the buyer must be willing to pay. A good (not even excellent) front end would increase the purchase price of each radio by $35-50, but unless we're willing to pay for what we want, we'll keep getting the crap we're getting now. The synthesized radios are a greater problem, since the "track-tuned" front ends using varactor diodes to tune them are wider in bandwidth and consequently more susceptible to intermod and images.

It should be obvious by now that adding a preamp to your radio is a double-barrelled problem. The preamp itself may be poorly designed (most of them are) and as a result be easily overdriven and generate more intermod if its own. Of course, even the best preamp will aggravate an already-existing intermod problem, since your receiver will be receiving stronger signals. Therefore, if you must add a preamp, get the best one you can and select a moderate amount of gain (no more than 20 db) with a low noise figure (less than 3 db). If you can, mount it inside the radio, but if you can't connect it to your receiver with the minimum amount of coax required. If not already in a shielded can, mount it in one, and bypass the power leads coming out. After all, preamps have been known in some cases to become oscillators! Then all you can do is attach a good antenna and cross your fingers. After all, we're all at the mercy of the monitor manufacturers.

CHUCK (CA-OR-001)

INFORMATION EXCHANGE

If any of the members in the San Francisco or Oakland area could get me the address of the FAA Air Taffic Controller's Office in those areas, I'd appreciate it. PETE (OR-004)

Two Questions: (1) I hear periodic telemetry on 150.0000. The signal seems to be affected by Doppler shift. Is this a satellite? If so, which one? I do not have equipment to decode telemetry or TTY of any sort. (2) I also hear a broadband signal at various places between 416 & 420 MHz. It seems to be some sort of translator or repeater for Air Force SSB signals. If other hear it, it is probably a relay satellite. IF I am the only one, then it may be the SAC's airborne command post out of Omaha. It am not receiving SSB direct, however. The signal(s) are SSB or inverted speech superimposed on an FM carrier. BOB (KS-001)

Would like to know frequencies used by burglar alarm companies, investigators, security guards, and other security agencies. The only contribution I can make is that U.S. Burglar Alarm and Jewel City Patrol (Glendale) share 151.835. S.P. MARCHER (CA-LA-075), 15056 Greenworth Drive, La Mirada, CA 90638.

Does anyone know how to program the Bearcat 250 for "out-of-range" frequencies? (ED NOTE: See Pg. 14, Dec. 78 Newsletter, plus watch for article next month). Also, does anyone have information on the Cleveland National Forest numbering system? TIM (CA-LA-072)

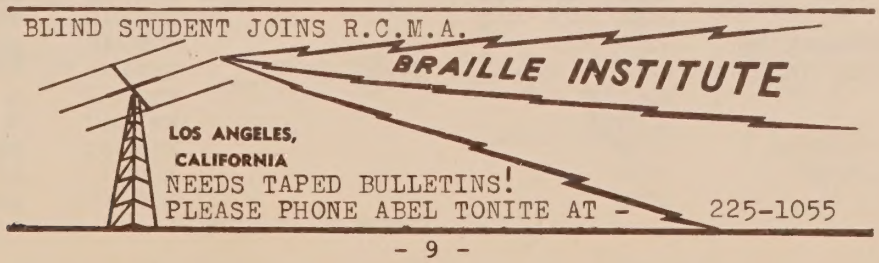
Three questions regarding the LAPD: (1) What are the definitions of the following LAPD Radio Codes: "NORA-8", "26, and "RED"? (2) When did LAPD Div. 18 go into operation and what is the mobile frequency. I don't ever recall seeing this in my RCMA Newsletter, and (3) Are LAPD Divisions No. 1 and No. 13 now being dispatched on UHF, VHF, or both? Also, when are the Rover frequencies supposed to be in use Citywide? RON (CA-LA-060).

In the LA/Orange Co. area, there seems to be little UHF repeater activity, except on 449.0 (Ham link-up to Arizona, New Mexico, and Texas). Both 449.0 and 449.25 are auto-patch. Can someone that is involved write to the Club Paper with info. Also, can some Ham compile a complete list of VHF-UHF repeater and simplex frequencies in So. Calif. and their use. Anyone have any "underground" programming info for an Opti-Scan? MARK (CA-OR-092)

WANTED: Plans and specs on radio desks and also pictures of radio room set-ups. GUY KROGER (IA-002), 211 S. Fawcett, Sioux City, Iowa 51103 (712) 258-5902.

REMA members in the US desiring to know the flight itinaries and types of plans of specific airline flights that they hear can write to MARK HOLMES (IL-008), 1601 W. Maplewood, Marion, Illinois 62959 (SASE)

WANTED: Schematic or manual for Robyn Model 1000 (hi band) 4 channel Portascan. Want to borrow to photocopy, but willing to purchase. DON (CA-OR-014), 714-524-5730.



MISC. FREQUENCIES

SVC.	CITY	USE	CHAN.	CALL.	XMTR.	FREQ.
EVANSVILLE, INDIANA						
PD	EVANSVILLE	DISPATCH - REPEATER	1	KSA931	R	155.130
"	"	INPUT TO REPEATER			M	154.890
"	"	VICE - NARCOTICS			M	155.190
"	"	INTERSYSTEM - NET		KSA931	B	155.370
SP	"	DISPATCH		KSC804	B	42.420
"	"	CAR TO POST		KA2181	M	42.260
"	"	VEHICULAR REPEATERS				155.445
"	"	ILEEN-MUT.AID ST.WIDE NET			BM	155.475
FD	"	DISPATCH - City-Wide	1	KSC497	BM	154.190
"	"		2	KT9211	M	153.950
COPD	"	DISPATCH,VANDERBURGH CO.		KSF295	BM	155.565
CD	"	COUNTY CIVIL DEFENSE	1		BM	155.820
MED	"	IHERN-ST.WIDE HOSP. NET			BM	155.340
AMB	"	ALEXANDER AMBU. SVC.		KBV998	BM	155.220
AMB	"	PIERRE AMBU. SVC.		KLH960	BM	155.175
		DAVE (IN-002)				
CHICAGO, ILLINOIS						
F	CHICAGO	North of 39th St.	F1	KSC711	B	154.13
"	"	Mobile for above			M	153.95
"	"	So. of 39th St.	F2	KSC711	B	153.77
"	"	Mobile for above			M	154.01
"		Admin - Ambulances	F3	KSC711	B	154.22
"	"	Fire Ground	F4		M/HH	153.83
"	"	O'Hare Field-City Fire		KWB636	B	154.13
"	"	Not in Service)				154.385
"	"	" " ")	Cancelled - will move			460.600
"	"	" " ")	to 900 MHz			460.625
		ED (ILL-004)				
PHOENIX, ARIZONA						
PD	PHOENIX	CHASE	1			154.8900
"	"	INFORMATION	2			154.7550
"	"	VHF - DET. (PHASING OUT) Alternate CHASE	3			155.7900
"	"	SO.SIDE OF VAN BUREN	4			155.3700
"	"	TACTICAL & SPC. OPS	5			155.0700
"	"	NO. SIDE,N/OF LINCOLN DR.	6			155.6400
"	"	EAST SIDE	7			155.5200
"	"	WEST SIDE	8			155.4300
"	"	VICE & SP.INV.BUR.	450-1		R	453.1000
"	"	UHF DETECTIVE	450-2		R	453.2000
		AL (AZ-001)				
CHARLOTTESVILLE, VIRGINIA AREA						
PD/SP		Inter-agency law enf. comm. channel				39.500
PD	CHARLOTTESVILLE	DISP/PAT		KIC370	BM	39.440
"	"	DISP/PAT SEC'D		KIC370	BM	155.535
"	"	DISP/PAT AUX		KIC370	BM	155.580
SO	ALBEMARLE CO	DISP/PAT		KVF640	BM	39.860
PD	CHARLOTTESVILLE	DISP - Univ. of Virginia		KYL662	BR	460.025
"	"	MOBILE - " " "		KYL662	M	465.025
SP		MOBILE		KA5367	M	42.700
"	APPOMATTOX	DISP		KIB701	BR	42.860
"	CULPEPER	DISP		KIC367	BR	42.860
"	"	DISP		KIC367	BR	42.880
		CHARLIE (VA-001)				

SVC.	CITY	USE	CHAN.	CALL.	XMTR.	FREQ.
PHILADELPHIA, PENNSYLVANIA AREA						
FD	PHILADELPHIA	MOBILE & PORTABLE	F-5	KGB476		33.4200
"	"	MOBILE	F-2	KGB476		153.8300
"	"	MOBILE	F-2	KGB476		153.8900
"	"	FIREGROUND	F-2	KGB476	R	153.9500
"	"	MOBILE	F-4	KGB476		154.0100
"	"	COMMAND	F-4	KGB476	R	154.1450
"	"	DISPATCH	F-1	KGB476	R	154.2350
"	"	MOBILE	F-1	KGB476		154.4150
"	"	MOBILE	F-3	KGB476		166.2500
"	"	RESCUE	F-3	KGB476	R	170.1500
PD	"	"N"BAND, NO. 14th & 35th	F-1	KGF587	R	453.0500
"	"	"C"BAND,CENT.6th & 9th	F-2	KGF587	R	453.1500
"	"	"D"BAND,NO/CEN.22 & 23rd	F-3	KGF587	R	453.2000
"	"	"T" BAND,TRAF.G-T-X-UNTS	F-4	KGF587	R	453.2500
"	"	"E"BAND, EA.24/25/26th	F-5	KGF587	R	453.3000
"	"	"A"BAND,WEST.16th& 19th	F-6	KGF587	R	453.3500
"	"	"H" BAND,DETECTIVES	F-7	KGF587	R	453.4000
"	"		F-8	KGF587	R	453.4500
"	"	"P"BAND,SW. 12th & 18th	F-9	KGF587	R	453.5000
"	"	"M" BAND, EMERGENCY	F-10	KGF587	R	453.5500
"	"	"L"BAND, COMM. LIMOUS.	F-11	KGF587	R	453.6000
"	"	"B"BAND,SO,1/3/4/&17th	F-12	KGF587	R	453.6500
"	"	"J"BAND, ADMIN.	F-13	KGF587	R	453.7500
"	"	"G"BAND,NW/5 & 39th	F-14	KGF587	R	453.8000
DELAWARE CO, PENNSYLVANIA AREA (Haverford Township)						
FD	HAVERTOWN	BASE & MOBILE (DISPATCH)	F-1	KGC512		46.2200
"	"	BASE & MOBILE(FIREGRD)	F-2	KGC512		46.4200
"	"	OAKMONT FIRE CO. NO. 1	F-1	KBB835		46.2200
"	"	OAKMONT FIRE CO. NO. 1	F-2	KBB835		46.4200
"	"	LLANERCH FIRE CO. NO.2	F-1	KGC512		46.2200
"	"	LLANERCH FIRE CO. NO. 2	F-2	KGC512		46.4200
"	"	BROOKLINE FIRE CO.NO. 3	F-1	KRZ273		46.2200
"	"	BROOKLINE FIRE CO. NO.3	F-2	KRZ273		46.4200
"	"	BON AIR FIRE CO. NO. 4	F-1	KLM619		46.2200
"	"	BON AIR FIRE CO. NO. 4	F-2	KLM619		46.4200
"	"	MANOA FIRE CO. NO. 5	F-1	KGD544		46.2200
"	"	MANOA FIRE CO. NO. 5	F-2	KGD544		46.4200
PD	"	BASE & MOBILE	F-3	KGB239		39.9000
"	"	BASE & MOBILE (DISPATCH)	F-1	KQL751	MR/BR	453.2750
"	"	MOBILE-TO-MOBILE	F-1	KBQ37	CO	458.2750
"	"	MOBILE-TO-MOBILE	F-1	KQB37	CO	458.2750
"	"	BASE & MOBILE (DISPATCH)	F-2	KQL750	MR/BR	453.4750
"	"	MOBILE-TO-MOBILE	F-2	KBQ37	CO	458.4750
"	"	MOBILE-TO-MOBILE	F-2	KQB37	CO	458.4750
MONTGOMERY COUNTY, PENNSYLVANIA, AREA (Lower Merion Township)						
FD	ARDMORE	BASE & MOBILE	F-2	KGC984		33.7000
"	"	BASE & MOBILE (DISPATCH)	F-1	KGC984		33.8400
"	GLADWYNE	BASE & MOBILE	F-2	KLX932		33.7000
"	"	BASE & MOBILE	F-1	KLX932		33.8400
"	BRYN MAWR	MOBILE-TO-MOBILE	F-4	KGB861		33.4200
"	"	BASE & MOBILE	F-2	KGB861		33.7000
"	"	BASE & MOBILE	F-1	KGB861		33.8400
"	"	BASE & MOBILE	F-3	KGB861		33.9000
"	NARBERTH	BASE & MOBILE	F-2	KC2551		33.7000
"	"	BASE & MOBILE	F-1	KC2551		33.8400
"	"	COMP OF NARBERTH/VOL.MED.	F-2	KGC984		33.7000
"	"	" " " "	F-1	KGC984		33.8400
"	"	" " " "	F-3	KGC984		46.0400
"	ARDMORE	MERION FIRE CO. NO. 1	F-2	KGC984		33.7000
"	"	MERION FIRE CO. NO. 1	F-1	KGC984		33.8400

CRAIG (PA-008)

WANT ADS

FOR SALE

BEARCAT 250, excellent condition - $255; CRAIG 4351 VHF H/L Pocket Scanner, excellent condition - $65; RCA 16S200 UHF 450-512 MHz pocket scanner, veractor tuned, excellent condition - $65. BOB MC GOVERN (CA-YO-001), P.O. Box 1394, Sarasota, FL 33579 (813) 365-0053.

BEARCAT CRYSTALS: 146.940, 153.665, 154.785, 155.070, 155.130, 155.385, 155.445, 155.655, 155.715, 158.790 (2), 159.030, 163.925, 166.400, 167.200, 460.075, 460,175, 460,425, 460.475 - $1.50 each. CRYSTALS for scanners with 10.7 MHz IF: 158.790, 158.850, 159.030 - $1.50 each. DAVID BECK (AL-001) 422 Laurie Drive, Birmingham, AL 35214.

CRYSTALS, CR-24/u, axial lead, for URR-13, etc; 22.05, 22.2, 22.29, 22.44, 22.5, 24.5, 25.39, 25.116, 25.32, and 30.366 mc. $2.50 each. G. DU BOIS (OR-001), 10048 NE Campaign, Portland, OR 97220.

CRYSTALS, HC18/U type holder, 3rd overtone. Fits Sonar, Lafayette, Fanon, Hy-Gain, etc. radios. Following frequencies: 37.38, 44162, 44.66, 44.78, 44.94, 44.98, 45.90, 150.995, 151.115, 151.985, 154.04, 154.16, 154.43, 154.445, 154.65, 154.77, 154.89, 154,905, 155.13, 155.19, 155.205, 155.37, 155.415, 155.46, 155.535, 155.55, 155.61, 155.73, 155.85, 155.985, 158.82, 159.21, 160.47, 161.04, 161.40, 453.375, 453.40, 453.55, 453.65, 453.80, 460.075, 460.100, 460.200, 460.500, 370.2114, 370.6614, 370.8614, 370.8274, 371.0874, 376.2614, 343.100 MHz. Price: $2.50 each postpaid. 5 or more $2.00 each postpaid. Send postal money order or stamps, please. TONY LOVING (NJ-005), 231 Kinderkamack Rd., Westwood, NJ 07675.

REGENCY 8 ch VHF Hy/Lo A/C or D/C Model ACT-M8HL - $50.00; REALISTIC Pro 7B, 8 Ch VHF Hy band AC only - $50.00; REALISTIC Pro-12 4 Ch VHF Hi-Lo, DC only - Autoportable series w/case - $30.00. AC Converter for use at home - $10.00; REGENCY MR-33 VHF 20-band Tube Type - Tunable Radio - $30.00. RON MURRAY, 18935 Sherman Way, No. 12, Reseda, CA 91335 (213) 343-6645 - after 6 p.m.

SONY - ICF-6700 W Shortwave receiver, digital readout on AM, FM, and Shortwave bands. Only two months old - in excellent condition. STEVE HANDLER (IL-001), PO Box 48, Deerfield, IL 60015, (312) 433-2802 days; (312) 498-1403 (Nights)

PRO-3 - $100.00, KARL (CA-OR-022)

CRYSTALS, Type 1, $2.00 - 460.150, 460.275, 460.500. Send SASE to JEFF (CA-OR-012), 1626 Warwick Lane, Newport Beach, CA 92660

WANTED:

SELL ME a copy of a Service Manual for a Hy Gain 3-band Crystal Proscan. Or, please refer a sure-thing-source of where one can be purchased. Your reply will be quickly acknowledged. JOHN RUCKERT, (CA-LA-055), 953 So. Beacon Ave., Los Angeles, CA 90015.

TYPE 2 (Bearcat) Crystals, 154.600, 45.080. Call JEFF (CA-OR-012), (714) 642-4306.

TECHNICAL TOPICS

If someone were to ask me what type of question is most frequently asked by monitoring enthusiasts, I wouldn't have to scratch my head or ponder the question for very long before coming up with an answer. Far and away the most popular question deals with some aspect of improving the performance of a radio system, and when it comes, the question is usually presented in the over-generalized form such as "What can I do to make my radio hear better?" I'd guess it's safe to say that there's probably at least ten thousand answers to that same question, depending upon who is asking it.

I've been spending a lot of my free time lately tinkering around with microcomputers , and if there's one big lesson I've learned from my experiences, it's that you can't expect an intelligent answer from a computer (or anything else, for that matter) unless you can ask intelligent questions. By that, what I really mean is that if you can accurately and precisely define your problem, then you're probably about half the way to the solution already!

Now, let's apply what I've just said to the hobby of monitoring. Instead of asking "What can I do to make my radio hear better?", let's re-arrange our method of thinking and ask instead "What area of my system is unsatisfactory?" In other words, what's your gripe? Do you suffer from excessive intermod, are you being clobbered by adjacent channel interference, not able to hear mobile unit responses due to poor sensitivity, or what?? Once you've taken a few minutes to define exactly what your problem is, then you can concentrate your attention in that area. Now, let's go one step further and ask "Why am I having the problem I'm having?" Sometimes when you do this, the solution becomes obvious. People who are plagued by unreasonable amounts of intermod may find that the police station is only one block away, or the poor sensitivity could be traced to a damaged antenna. Some of you may think I'm oversimplifying the problem, but I wish I had a nickel for every time I've overlooked the obvious answer myself. In fact, sometimes the solution is overlooked because it's too darned obvious! So, in a nutshell, be precise, define your problem, and it'll be a whole lot easier for me to help you if I have to.

CHUCK (CA-OR-001)

AN INTELLIGENT SCANNER?

Every month I like to come up with a new subject and just sort of ramble on with it (I'm sure you've noticed) to try and generate a little thought and hopefully some response from you out there in the general membership. Well, as I mentioned earlier in my narrative, I have recently become involved with microcomputers. I had learned to program both in Basic and Fortran about six or seven years ago, but up until now I had never had the opportunity to get much hands-on experience. This Christmas, however, I found myself presented with a brand-new Commodore PET computer, and suddenly I find myself with a very powerful tool for number-crunching and such. The other day, while I was getting solidly clobbered by the infernal machine at chess, I decided to give some thought to putting the computer to work doing something useful during those times when I wasn't using it for something else. The obvious use--putting my lists of frequencies into a file--was no problem, but still left a lot to be desired when it came to fully utilizing the capabilities of the machine. But how about a "smart" scanner.....one that would be several orders of magnitude more intelligent than the Bearcat 250 already is? That would be dynamite, I thought, and right down the PET's alley with its IEEE-488 interface bus, which allows an "intelligent" peripheral device to function both as a "talker" and as a "listener". The PET could, through a user-designed interface, take over all the housekeeping chores of the 250, including but not limited to searching, scanning, activity counter, etc. Each time the scanner found a new active frequency, the PET could open a file on it, keeping tabs on usage, etc. Scan rate and direction, even step size, could be controlled by the computer, and even selected under

program control. Result -- an "intelligent" scanner, one which is able to respond to stimuli and react in an appropriate fashion. I would be interested in hearing from those of you who are interested in this area of experimentation, whether you specialize in hardware, software, or would just be curious about such a system.

RF SELECTIVITY -- ONE APPROACH

In reference to my remarks in January's Newsletter about an article on increasing scanner selectivity, I have decided to treat the subject of RF Selectivity prior to any discussion of IF Selectivity, partly because there is more improvement to be made in this area. Most contemporary equipment has adequate IF selectivity for most applications, but most radios could use a bit of improvement in the area of RF, or front end selectivity. Before I begin, I must thank BRYAN (CA-OR-097) for doing all of the experimentation and making all of the measurements that I'll be referring to in the following discussion.

First of all, let me make one thing clear. I've said at least a couple of times in the past that the new synthesized radios represent a compromise between versatility and performance. You will need to keep this in mind, because if you decide to install RF selectivity because of images or intermod, you will be giving up the ability to scan across the entire band. This is a game of "give and take", and the robbing of Peter to pay Paul will probably not be acceptable to any but the more zealous enthusiasts.

What then, will RF selectivity gain for you? Applying some selectivity in the front end, prior to any amplification or mixing processes, has several advantages, but the most significant is the reduction or elimination of images and other mixer-related spurious responses. This is achieved by limiting the range of input frequencies which are allowed to proceed through to the mixer in the first place. The helical filter, such as the one described by BRYAN in the January Newsletter (Page 17) is ideal for adding this type of selectivity to a radio. The helical filter is a high-Q type of device utilizing tuned cavities to develop excellent selectivity characteristics at VHF/UHF frequencies, and the 4-cavity version offered by VHF Engineering is a real bargain at $29.95. This helical filter, which imposes a fixed insertion loss of about 4 db to your signal, will exhibit a response roughly 70 db down at 21 MHz below the desired frequency, a characteristic which effectively eliminates any image responses. This works, however, only over a range of about $\pm$ 2 MHz for the high VHF band and $\pm$ 6 MHz for the UHF band, which would cramp your style considerably if your requirements necessitate listening to stations across the entire band. Using one of these devices involves merely mounting one in an enclosure with the suitable connectors and hooking it in series between your antenna and the receiver. Being a passive device, the helical filter will require no power source. Tuning to frequency can be done by ear, or more accurately, using a spectrum analyzer. The 4-6 db of insertion loss can be made up, if you so desire, by the use of a low-noise preamp installed before the helical filter.

According to BRYAN, the 144 MHz ham-band version will tune from 103-270 MHz, while the 432 MHz version will go from 250 through 508 MHz, so either of these units should prove suitable for applications in the public service bands. I have been provided response curves for the helical filters by BRYAN for those of you who are more interested in the specifics.

CURRENT DEVELOPMENTS IN SCANNING MONITOR HARDWARE

Some of our members have expressed the desire, either in person or through the mail, that the RCMA should make an effort to keep them abreast of the current developments in scanning monitor hardware. This, of course, we would be very happy to do, and toward this end I would appreciate any contributions you might have along these lines.

At our January meeting, Dave, our President, gave a brief thumbnail sketch of what new equipment was offered by the various manufacturers at the winter Consumer Electronics Show in Las Vegas. The immediate outlook, it would appear, is not very promising. The two "powers that be" in the industry seem to feel that their current offerings -- the BC-250 and K-500, respectively, represent the epitome in sophistication. Therefore, all progress seems to be in the reverse direction, i.e. less complex and resultingly less expensive radios. While at first glance this trend may seem a bit anticlimatic, I think that, in the long run, it will prove to be a wise course of action. After all, if the engineering effort of the manufacturers is constantly devoted to putting more and more bells and whistles in that little box, they'll never get around to cleaning up some of the annoying little problems we all complain about. Then, too, with the new radios hitting the market at suggested list prices of from $350-400, how much more complexity can the rank-and-file scanner enthusiast afford? With models becoming past history in an average of two years, many buyers I know have adopted a "wait and see" attitude, holding off on their purchase to see what's just around the corner, and if you don't think this hurts the manufacturer, think again. Mix in a little unfavorable publicity from our buddies over at Motorola, and it's no wonder that all of a sudden we've been seeing scanner advertisements on television.

In any event, according to DAVE, we can expect to see the Bearcat 211 replacing the 210, and sporting 18 (yes, exactly 18) channels. The BC-220 is still on the way, of course, with 20 channels and added coverage of the VHF aircraft band, but at a cost of no search and store capability. Regency is still promising the infamous K-500, a potent mixture of Madison Avenue hype and utter confusion. I'm sorry, fellows, but I'll be darned if from reading your literature I can figure out what it's supposed to do! Be that as it may, the proliferation of scanners seems to be at least partially reversing itself, with fewer models available instead of more. Whether or not this trend will continue is anyone's guess.

* * * * * * * * *

In your December Newsletter, the article on Beam Antennas left out Antenna Specialist Catalog "Professional Mobile & Base Antennas and Accessories". Antenna Specialists manufactures beams with up to 25 db gain VHF and 30 db gain UHF. The antennas are a little more than average in cost, but if you're going to the trouble of a beam, why not spend the extra $20.00 if you put $100 or so in a beam?

TOM (PA-011)

* * * * * * * * * * *

After reading the article on Page 14 of the December 1978 Newsletter, about odd frequencies, I thought I might mention my Regency K-100. By depressing the decimal point first, and then again in the proper place, you can get expanded coverage. Mine covers the following:

Low	15.100 - 57.725 MHz
High	136.01 - 178.635 MHz
UHF	386.575 - 514.462

Sometimes you can program 15-20 KHz higher, but the scanner will not operate properly in the "scan" position.

Example of odd frequency entry: .139.575 or .16.135 or .514.355

The best antenna I've found is the Cushcraft Ringo ARX-2 for high VHF, AR-6 for low band, and the ARX-450 for UHF. For more years than I care to remember, I tried a lot of different antennas, including beams, and still come back to the Ringo's. Plain monitor antennas are next to useless unless you get a super-strong signal. I use Bertek's Ultra-Flex RG-8/U, Cat #6212 for all lead-ins. I spray the antennas with Rustoleum silver paint after washing them in white vinegar and rinsing and drying.

LARRY (CA-SM-004)

BOSTON AREA POLICE EMERGENCY RADIO NETWORK

The Boston Area Police Emergency Radio Network (BAPERN) is now totally operational. It is a "state-of-the-art" telecommunications system serving 31 cities and towns in the metropolitan Boston area.

The Greater Boston Police Council had always realized the need for inter-agency emergency communications, e.g. the Harvard Square riots of the late sixties, the Delta airline DC-9 crash at Logan International Airport, President Ford's Bicentennial visit, parades, pursuits, etc. The Council contracted CES Telecommunications of Chicago to design a regional radio network.

Most radios in the BAPERN system are four-frequency Motorola MICOR mobile and MX series portables. (Motorola was awarded the contract with a below-cost bid). Each radio has an individual digital ID code that is transmitted each time the transmitter is keyed. The digital ID code is an integral part of the emergency signalling system. If an officer is in trouble, he pushes the emergency button on his radio that will alert the dispatcher monitoring the CRT display to the emergency.

The "Channel One" position on all radios is the local department's channel. This frequency is used for routing traffic and regular departmental operations. All local radio systems are of the satellite receiver, receiver voting, and repeater-type for "total area coverage".

The "Channel Two" position is the District Channel. The Greater Boston area has been divided into three geographic districts: North (470.4875 MHz), South (470.9125 MHz), West (470.7375 MHz). The District Channels are used for interdistrict communications by all district departments, i.e. pursuits, crime/wanted broadcasts, car-to-car tactical communications.

The "Channel Three" position is BAPERN 3 (470.7875 MHz, formerly METRO I). This channel is used for regional emergencies, disasters, and special regional operations. BAPERN 3 can also be used as a back-up channel for the local and district channels.

The "Channel Four" position is BAPERN 4 (470.5625 MHz, formerly METRO 2). This channel is used as a back-up channel for BAPERN 3. It is also used as the common detective channel. In the future, this channel may be used for mobile data terminal transmissions.

Soon, non-BAPERN equipped departments will be able to transmit on the BAPERN frequencies via a radio patch system.

If anyone has any questions, contact me and I'll try to answer them for you. For "Channel One" local department frequencies, consult the 1978 edition of Police Call, Volume I.

DON (CT-003)

* * * * * * * * * *

"T" CODES

For those who listen to tow agencies, the "T" Codes are as follows:

T1	- flat tire, spare ok	T6A	- Keys locked in car
T2	- flat tire, no spare	T6B	- Keys lost or broken
T3	- battery	T6C	- Keys in trunk
T4	- out of gas	T7	- Tow
T5	- won't start	T8	- Collision

JEFF (CA-OR-012)

FEDERAL FREQUENCY EXCHANGE ??

I have read with interest the article which appeared in the October 1978 issue of the RCMA Newsletter regarding the publishing and exchanging of information regarding Federal law enforcement frequencies by either individual RCMA members or by the RCMA itself.

I would like to reply to and refute Mr. Rogers beliefs that federal "undercover" agents would investigate the RCMA or its members because they were dealing in "classified" information.

First, radio frequencies of the various federal law enforcement agencies are no longer "classified". These frequencies can be found in two publications, namely: (1) CONFIDENTIAL Frequency List, Author: Robert B. Grove; published by Gilfer Associates, Inc. of Park Ridge, NJ 07656, and (2) The "TOP SECRET" Registry of U.S. Government Radio Frequencies, Author: Tom Kneitel (K2AES) of CB/S9 Magazine fame. He is its Editorial Director. This booklet is published at CRB Research, PO Box 56, Commack, NY 11725.

There is a third publication which prints numerous federal law enforcement frequencies, but I don't know how accurate it is.

Secondly, if a person who is of questionable character wanted to obtain a list of these frequencies, he would not have to go to RCMA or any of its members or its Newsletter to obtain them. All he would have to do is to go to his nearest radio-electronics supply store, buy or steal a programmable scanner, and a copy of Police Call magazine (with the FCC frequency allocations in the back) and experiment with the radio for a while. It shouldn't take him too long to discover the information. He could even send for these two publications that I mentioned above. He could also get himself a frequency detection device, plant himself near his local FBI or DEA office and the first time some federal agent keyed his mike bingo!, our "John Q. Lawless" would have himself this frequency information.

Thirdly, I feel that this Newsletter has limited itself and, therefore, deprived many of its members of even more listening pleasure and inability to expand their monitoring capabilities by refusing to print information regarding federal law enforcement frequencies. You do this by violating one of your own goals, namely, and I quote from the paper which you printed regarding information on the RCMA: "(4) To share information with and help other monitor listeners". It does not say "except information which deals with Federal Law enforcement frequencies.

I feel that much of Mr. Roger's fears are unwarranted in light of the fact that this information is already available to the general public, therefore making any arguments for not publishing this information in the Newsletter irrelevant.

I would hope that the RCMA Newsletter staff would review its policy of not publishing this information and modify its stand. If this was done, it would greatly assist other monitor listeners and hobbyists in being able to expand their monitoring horizons.

STEPHEN (NY-006)

* * * * * * * * * * *

DXERS ARE REMINDED of the upcoming solar eclipse, Mon. Feb 26. This is the last total eclipse of the sun to be seen in U.S. this century. The 200-mile wide totality path will run through Portland, Oregon, Idaho, Montana & North Dakota. A partial eclipse will be visible throughout the remaining U.S. and in Canada. It will start about 1530 GMT. (See your daily newspaper for the exact time in your area). This is a unique opportunity for DXers to test reception during the eclipse.

FROM: ANARC NEWSLETTER - Dec. 1978 & Jan. 1979

MONITORING AND THE LAW

BOB (CA-YO-001) sent in a recent Newspaper article from the Orlando, Florida "Sentinel Star" regarding the arrest of a news photographer for having a police radio scanner in his car. The article indicated that this was only the second time in two years that the law has been enforced, said law prohibiting the installation of scanners in non-emergency vehicles and businesses. The photographer indicated that police had advised that it was illegal to have the radio permanently installed in his car and he thought he had complied with their requests when he placed the scanner in his glove compartment. However, at a subsequent occasion, he was arrested for having the scanner in the glove compartment, but was released from the county jail on his own recognizance.

BOB further writes that enforcement of this particular Florida law is almost non-existent. Usually, the only time enforcement action is taken occurs when a person interferes with the lawful actions of public safety personnel. He points out that having a valid amateur radio operator's license is the best insurance when monitoring in a motor vehicle.

The Florida law in question reads as follows:

"843.16

(1) No person, firm or corporation shall install in any motor vehicle or business establishment, except emergency vehicles as herein defined, or places established by municipal, county, state or federal authority for governmental purposes, any frequency modulation radio receiving equipment so adjusted or tuned as to receive messages or signals on frequencies assigned by the Federal Communications Commission to police or law enforcement officers of any city or county of the state or to the state or any of its agencies. Provided, nothing herein shall be construed to affect any radio station licensed by the Federal Communications System.

(2) As used in this section, the term "emergency vehicle" shall specifically mean:

(a) Any motor vehicle used by any law enforcement officer or employee of any city, county, the state, Federal Bureau of Investigation, or Armed Forces of the United States while on official business;

(b) Any fire department vehicle or any city or county of the state, or any state fire department vehicle;

(c) Any motor vehicle designated as an emergency vehicle by the Department of Highway Safety and Motor Vehicles and said vehicle is to be assigned the use of frequencies assigned to the state;

(d) Any motor vehicle designated as an emergency vehicle by the sheriff of any county in Florida when said vehicle is to be assigned the use of frequencies assigned to the said county;

(e) Any motor vehicle designated as an emergency vehicle by the chief of police of any city in the state when said vehicle is to be assigned the use of frequencies assigned by the said city.

(3) This section shall not apply to any holders of a valid amateur radio operator or station license issued by the Federal Communications Commission.

(4) Any person, firm or corporation violating any of the provisions of this section shall be deemed guilty of a misdemeanor of the second degree, punishable as provided in Section 775.082 or 775.083."

The following "NOTES OF DECISIONS" were included on the excerpt of the law as provided by BOB:

1. Construction and Application. Under this section, the word "install" applies to a vehicular installation when (1) the unit is connected to and dependent upon the electrical power system of the vehicle; and (2) the unit is connected to an external antenna capable of receiving police broadcasts. A holder of a valid amateur radio operator's license issued by the Federal Communications Commission does not violate this statute when he is using equipment in his business establishment with the volume turned high enough so that his customers can hear the broadcasts. Under the rules and regulations of the federal communications commission, a licensed operator is not required to secure a separate license for each business or vehicular installation. Op.Atty.Gen. 074-369, Dec. 4, 1974.

2. Television stations. Provision of this section which exempts radio stations licensed by the federal communications system from the prohibition contained in the section against the installation of radio equipment using assigned frequencies of state or local law enforcement officers, applies to television stations as well as to radio stations. Op.Atty.Gen. 060-31, Feb. 17, 1960.

Submitted by BOB (CA-YO-001), who now resides in Florida

* * * * * * * * * *

FCC RULES & REGULATIONS - VOL. II, PART 15, Section 15.11. Prohibition against eavesdropping;

"(a) No person shall use, either directly or indirectly, a device operated pursuant to the provisions of this part for the purpose of overhearing or recording the private conversations of others unless such use is authorized by all of the parties engaging in the conversation.

(b) Paragraph (a) of this section shall not apply to operations of any law enforcement officers conducted under lawful authority."

In a recent letter from Mr. Herman Garlan, Chief, RF Devices/Experimental Branch, FCC, he advises: "Section 15.11 which prohibits eavesdropping means just what it says. No one shall use a device operated pursuant to the rules in Part 15 for the purpose of overhearing or recording the conversations of others. This regulations was promulgated to supplement the provisions of Section 605 of the Communications Act of 1934 (47USC605) which is designed to protect the privacy of communications."

The above was in response to my inquiry about an "Incidental radiation device" which I can pick up on my radio and I wanted to record what I picked up, which included conversations, for the FCC -- which you see is a "No No".

Further on the subject of eavesdropping -- FCC BULLETIN OCE 11 - July 1973, defines as follows:

"EAVESDROPPING PROHIBITED: FCC Rules adopted in 1966 prohibit the use of any radio transmitter for eavesdropping, whether licensed or operated without a license under Part 15. See Appendix B, Sec. 2.701 and 15.11. This prohibition does not apply to law enforcement officers operating under lawful authority."

Question -- Is a scanner a "receiver" or a "transmitter" ? ? ?

HAROLD (OR-004)

* * * * * * * * * * * *

If you're near an Arizona Indian Reservation, try listening to 453.7250. Most Indian Police units are on that channel.

AL (AZ-001)

As of 1/28/79, RCMA has 551 members in 42 states and 3 foreign Countries.

ALABAMA 3	LOUISIANA 1	OHIO 5
ARIZONA 5	MAINE 3	OKLAHOMA 1
ARKANSAS 1	MARYLAND 7	OREGON 6
CALIFORNIA ..359	MASSACHUSETTS ...7	PENNSYLVANIA 11
COLORADO 4	MICHIGAN 6	RHODE ISLAND 1
CONNECTICUT ...4	MINNESOTA 2	SOUTH CAROLINA 2
DELAWARE 2	MISSISSIPPI 1	TENNESSEE 1
FLORIDA 9	MISSOURI 3	TEXAS 5
GEORGIA 1	MONTANA 1	VIRGINIA 6
IDAHO 2	NEBRASKA 1	WASHINGTON 1
ILLINOIS 15	NEVADA 2	WEST VIRGINIA 1
INDIANA 5	NEW HAMPSHIRE ...2	WISCONSIN 3
IOWA 4	NEW JERSEY 11	ARUBA, NETH ANTILLES.1
KANSAS 2	NEW YORK 22	CANADA 14
KENTUCKY 1	NORTH CAROLINA ..5	MEXICO 1

NEW MEMBERS

CA LA 071 Bill Larkin, 13836 Bora Bora Way #214-B, Marina del Rey, CA 90291

CA LA 078 Mrs. Pat Ferguson, 22600 S Normandie #29, Torrance, CA 90502

CA LA 155 Abel Enriquez, 2826 Darwin Ave, Los Angeles, CA 90031

CA LA 156 Charles Martin, 1631 W Ave L-4, Lancaster, CA 93534

CA LA 157 Lybrand Smith, 23521-C Anza Ave, Torrance, CA 90505

CA LA 158 Robert, Lakewood, CA 90712

CA LA 159 Patrick, Los Angeles, CA 90022

CA LA 160 Donald Besaw, 229 Glen Lyn Drive, Glendora, CA 91740

CA LA 161 Bob Newby, 2200 W Olympic Blvd, Los Angeles, CA 90006

CA LA 162 Thomas Barr, 1788 N Roosevelt Ave, Altadena, CA 91001

CA LA 163 Jack, North Hollywood, CA 91607

CA ME 003 Howard Trites, 625 Trumbull Road, Novato, CA 94947

CA OR 042 Jensen Woods, PO Box 96, Atwood, CA 92601

CA OR 073 Jeff Harris, 9782 Messersmith Ave, Anaheim, CA 92804

CA OR 107 Keith Fulton, 616 Kiama Street, Anaheim, CA 92802

CA RI 019 MJM Electronics, 114 W Peck, Elsinore, CA 92330

CA SL 002 Wayne Hudtloff, 9070 Curbaril Ave, Atascadero, CA 93422

CA SR 005 Robert Rhodes, 1277 Glines Ave, Santa Maria, CA 93454

CT 004 William Guiney, 25-A Putnam Green, Greenwich, CT 06830

NC 002 Danny, Rocky Mount, NC 27801

NY 022 Arthur Williams, Jr., 576 Springtown Road, New Paltz, NY 12561

PA 011 Thomas Pecosh, Kiski School, Saltsburg, PA 15681

ADDRESS CHANGES

CA LA 008 Mike, Whittier, CA 90603

CA LA 009 Bill Brinkley, 508 Crest View #356, Belmont, CA 94002

CA LA 073 Robert, Long Beach, CA 90805

CA LA 108 Carl Bronston, 401 26th Street, Santa Monica, CA 90402

CA LA 146 Russell, Woodland Hills, CA 91364

CA SF 002 Donn Edwards, 579-C Dyrs Ave, NY, NY 11795(now NY 021)

MI 006 Richard, Portland, OR 97212 (now OR 006)

OH 005 Dan Kosko, 19509 Beverly Ave, Maple Heights, OH 44137

DROPPED FROM MEMBERSHIP

CA LA 074 Melinda Gregory

CA OR 021 Barron Broadston

CA LA 087 Hartley Meyers

WI 002 Gary Scheinoha

Bermuda 001 Delwin O.S. Riley

PUBLICATIONS

BEHIND THE DIAL: Technical and frequency data--info on assignments, equipment, etc. 73 Magazine, Peterborough, NH 03458.

BEARCAT OPERATING FREQUENCIES: Local frequency guides in Zip Code groupings. FREE from the Electra Company. Write or call Betty Bearcat for free phone frequency info and lists.

CRB COMM DIRECTORIES: Local frequency guies and regional specialty listings. CRB Research, Inc. POB 56, Commack, NY 11725. $3.00 per copy for most lists, $4.00 & $5.00 for some; send SASE for catalog.

POLICE CALL: Radio Directories--regional volumes for public safety, etc. US Radio Data, Dept. W. Lebanon, NJ 08833. $4.95 per copy -- annual (9 vols. for 48 states; add $1.00 for mail order).

POLICE CALL: Southern California Detail Edition--local system/channel details. California Radio Communications Co. POB 35102, Los Angeles, CA 90035. $5.50 per copy -- annual.

RADIO WAVEGUIDE: San Diego Edition--local system/channel details. Scanner Master Co., 4265 35th St., San Diego, CA 92104. $6.25 per copy--annual.

* SCANNER MATE: Radio Directories--regional volumes for PS, trains, taxis, etc. Scanner Mate Directores, Inc., 172 High St., Hartford, CT 06103. $4.95 per copy--annual (7 vols. for 48 states; add $1.00 for mail order).

COMMUNICATIONS MONITORING AND COMMUNICATIONS PROJECTS, by Bob Grove to be released soon from Hayden Books.

A GUIDE TO VOICE SCRAMBLERS, Stock # 003-003-01735-5, Supt. of Documents, Washington, DC 20402. Price: $1.05.

** "SIGNAL 10-11: Manual for Monitoring the Calif. Hwy. Patrol--system/channel details.

* Per ED (IL-004), as of December 21, 1978, they are not publishing any more directories.

** Currently out-of-print.

RCMA
POB 4563
ANAHEIM, CA 92803
FORWARDING AND RETURN
POSTAGE IS GUARANTEED

BULK RATE
U. S. POSTAGE
8.4¢ PAID
ANAHEIM, CA 92803
PERMIT NO. 397

NJ 007 12/79
LINZMAYER, WEBB
16 TROWBRIDGE RD
MORRIS PLAINS, NJ 07950

RUSH --- ITEMS OF NEWS VALUE